

Fig. 1

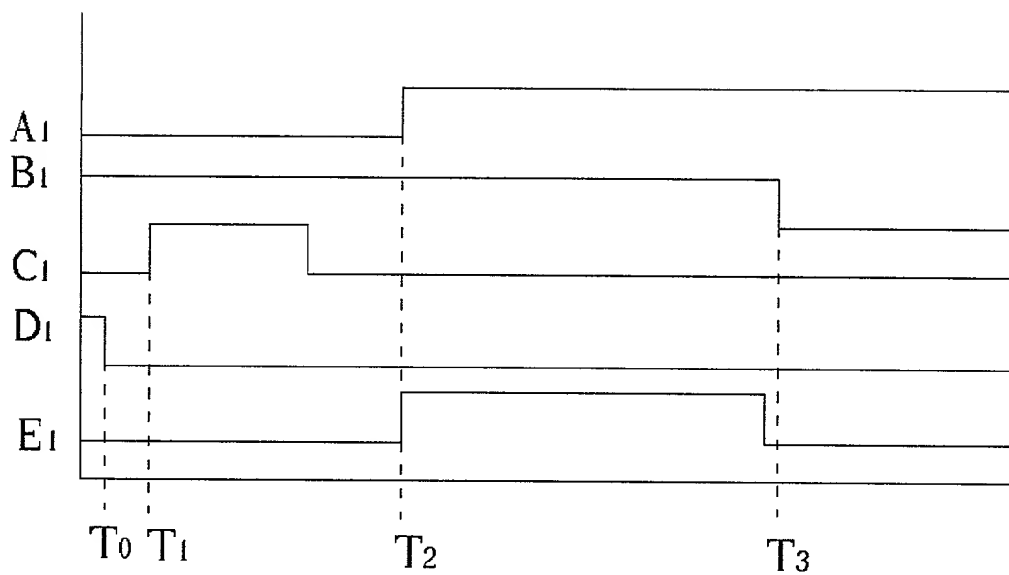


Fig. 2

20230207 64x48960

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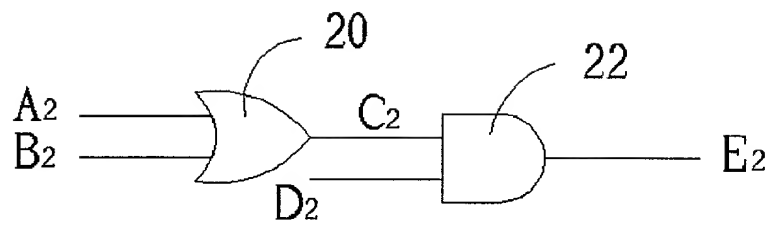


Fig. 3

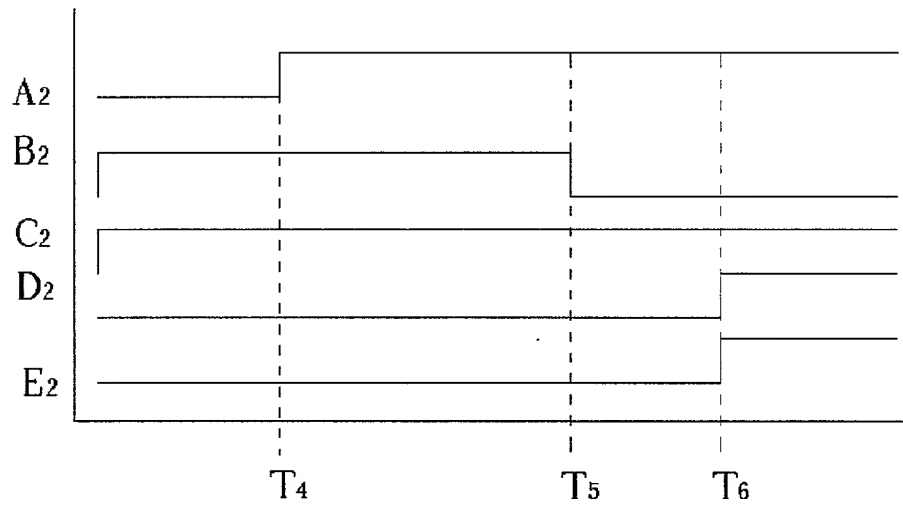


Fig. 4

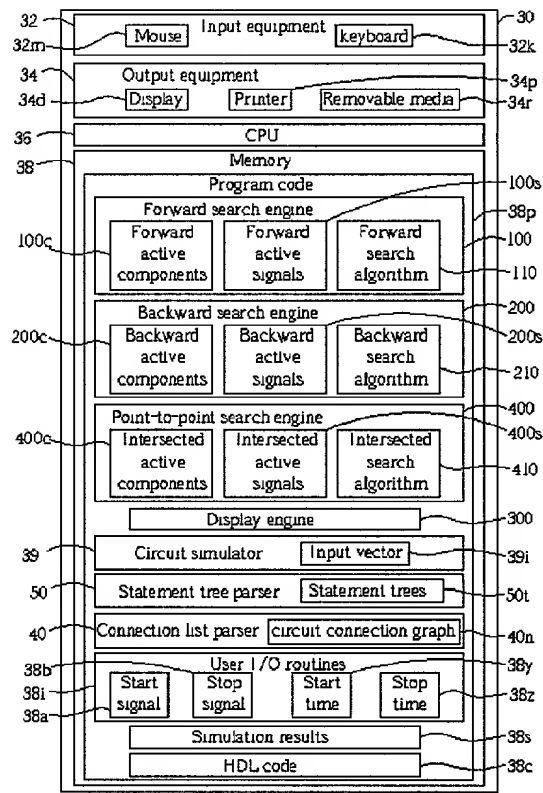


Fig. 5

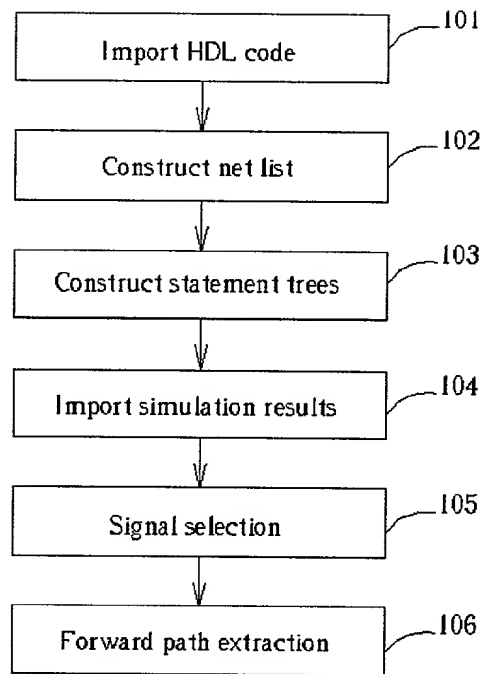


Fig. 6

```

1: module
example(clk,reset,controlc,controld,controls,ind,ine,ing,inh,ini,outf,outg,outh),
2: input clk,reset,ind,ine,ing,inh,ini,
3: input controlc,controld,controle;
4: output outf,outg,outh,
5: wire controlc,controld,controle,
6: wire ind,ing,inh,ini;
7: wire outf;
8: reg outh,outg;
9: wire sigc,sigf,sigh,
10: reg siga,sigh,sigd,sigf,sigg,sigi;
C7 11: assign outf= siga & sigb,
C1 12: assign sigc = ine | ing,
C3 13: assign sigf = sigi & ini;
C8 14: assign sigh = ine & inh,
15:
C9 16: always @(posedge clk or posedge reset)
17: begin
18:   if (reset)
19:     outh = 0;
20:   else if (controlc || controld)
21:     outh = #1 sigh,
22:   else if (!controle)
23:     outh = #1 ing;
24: end
25:
C11 26: always @(posedge clk or posedge reset)
27: begin
28:   if (reset)
29:     sigf = 0,
30:   else if (controld)
31:     sigf = #1 ind | inh,
32:   else if (!controle)
33:     sigf = #1 ing,
34: end

```

Fig. 7A

```

C6 35 always @(posedge clk or posedge reset)
    36 begin
    37     if(reset)
    38         outg = 0;
    39     else if (controlc)
    40         outg = sigc;
    41     else
    42         outg = sigc;
    43 end
C2 44 always @(posedge clk or posedge reset)
    45 begin
    46     if(reset)
    47         sigd = 0;
    48     else if (controlc || controld)
    49         sigd = #1 ind;
    50     else if (!controlc)
    51         sigd = #1 sigc;
    52 end
C5 53: always @(posedge clk or posedge reset)
    54: begin
    55:     if(reset)
    56:         siga = 0;
    57:     else if (controlc)
    58:         siga = #1 sigd;
    59:     else
    60:         siga = #150 sigf;
    61: end
C4 62: always @(posedge clk or posedge reset)
    63: begin
    64:     if(reset)
    65:         sigb = 0;
    66:     else if (controlc && !controld)
    67:         sigb = #1 sigc;
    68:     else if (controlc)
    69:         sigb = #1 sigg;
    70 end

```

Fig. 7B



```

C10  71: always @(posedge clk or posedge reset)
      72: begin
      73:     if (reset)
      74:         sigg = 0;
      75:     else if (controlc && !controld)
      76:         sigg = #1 ini;
      77:     else if (controle)
      78:         sigg = #1 inh;
      79: end
C12  80: always @(posedge clk or posedge reset)
      81: begin
      82:     if (reset)
      83:         sigi = 0;
      84:     else
      85:         sigi = #1 inh;
      86: end
      87: endmodule

```

Fig. 7C

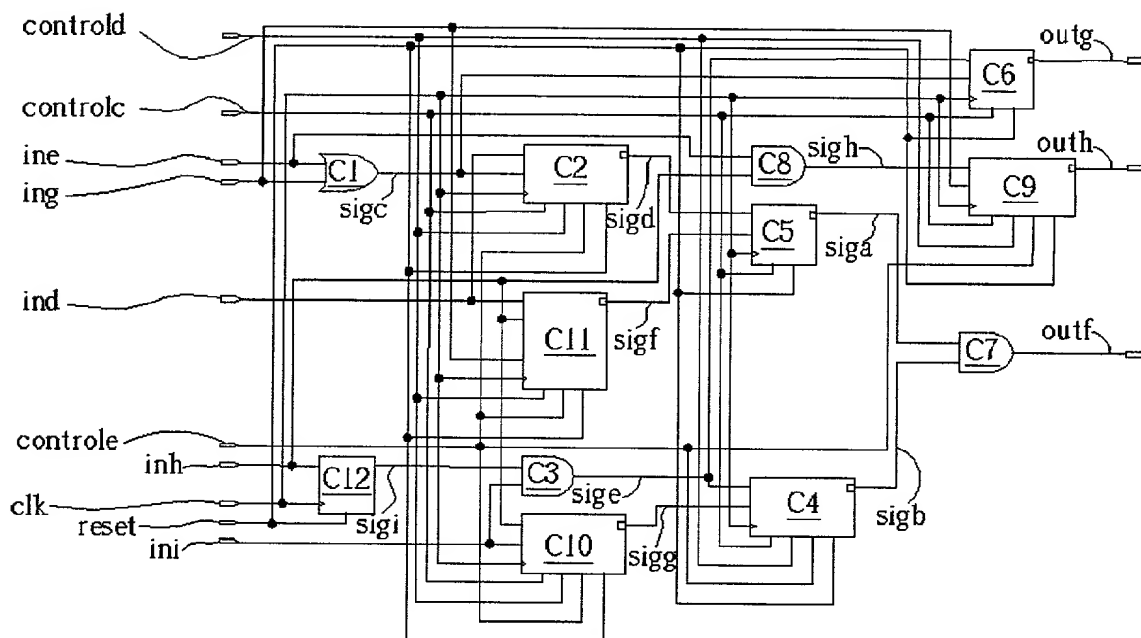


Fig. 8

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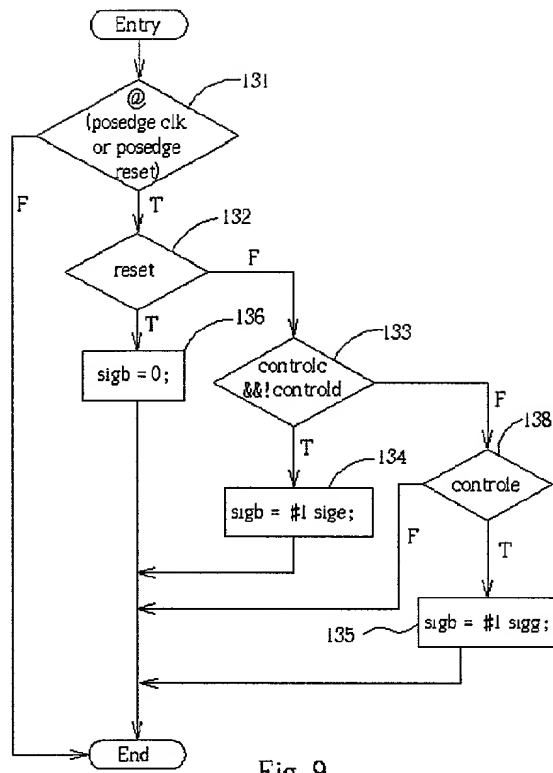


Fig. 9

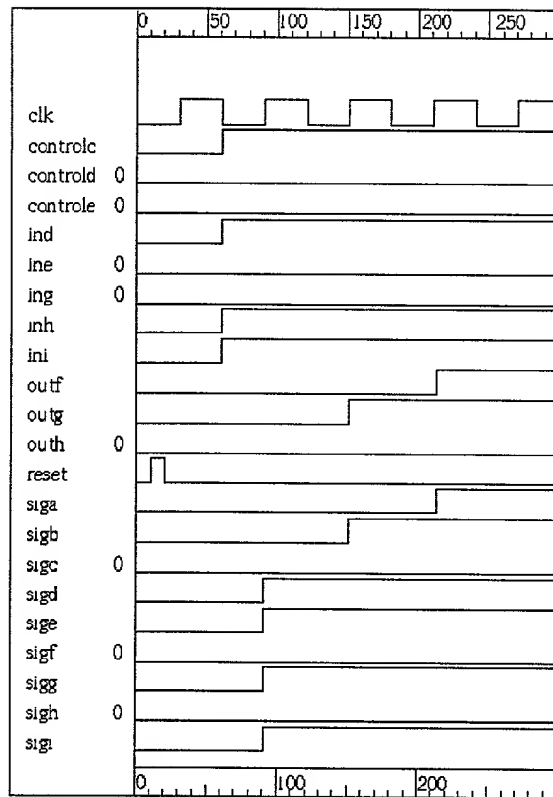


Fig. 10

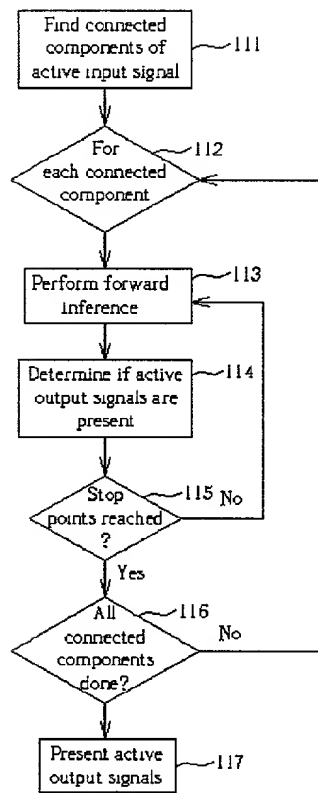


Fig. 11A

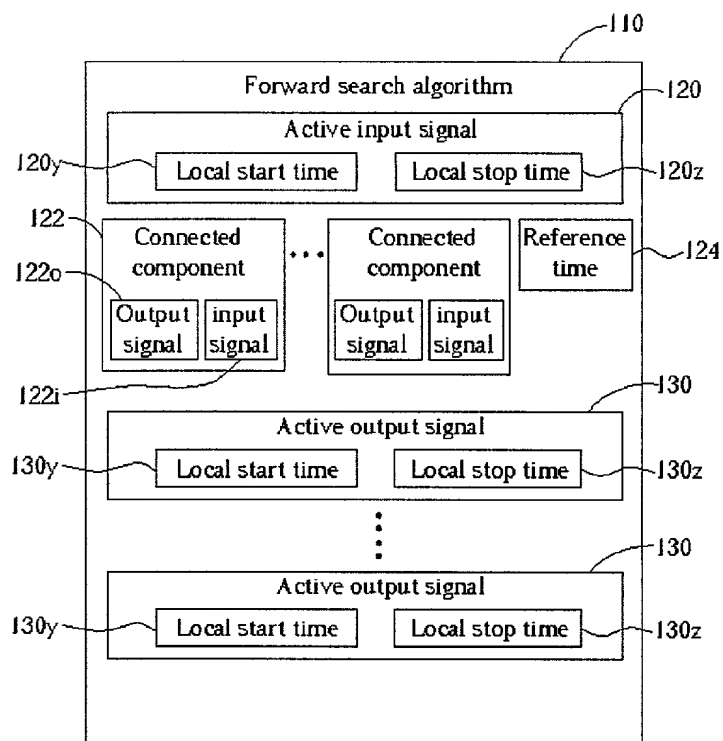


Fig. 11B

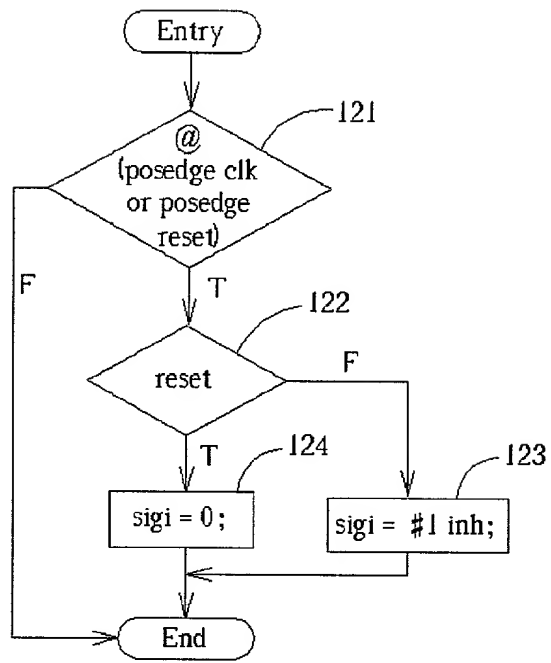


Fig. 12

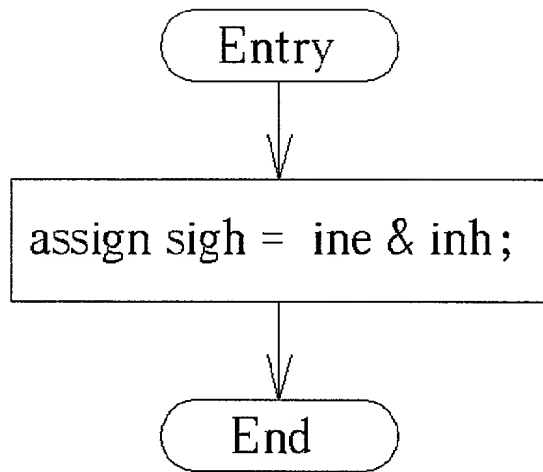


Fig. 13

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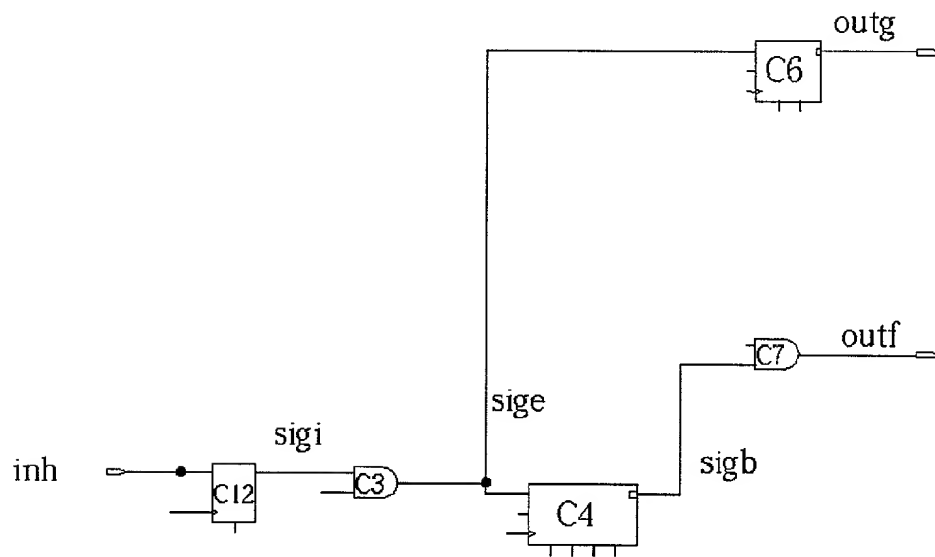


Fig. 14A

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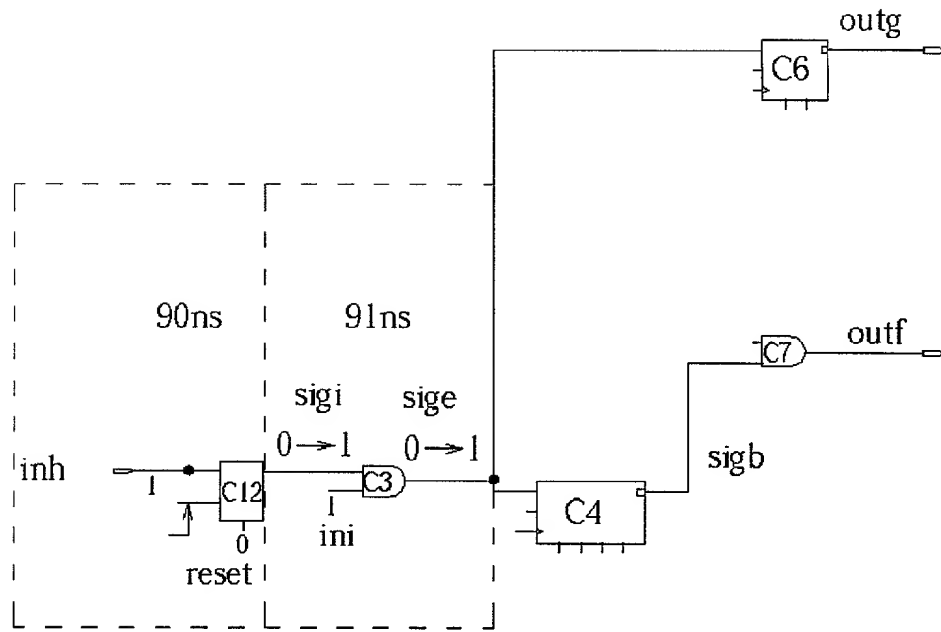


Fig. 14B

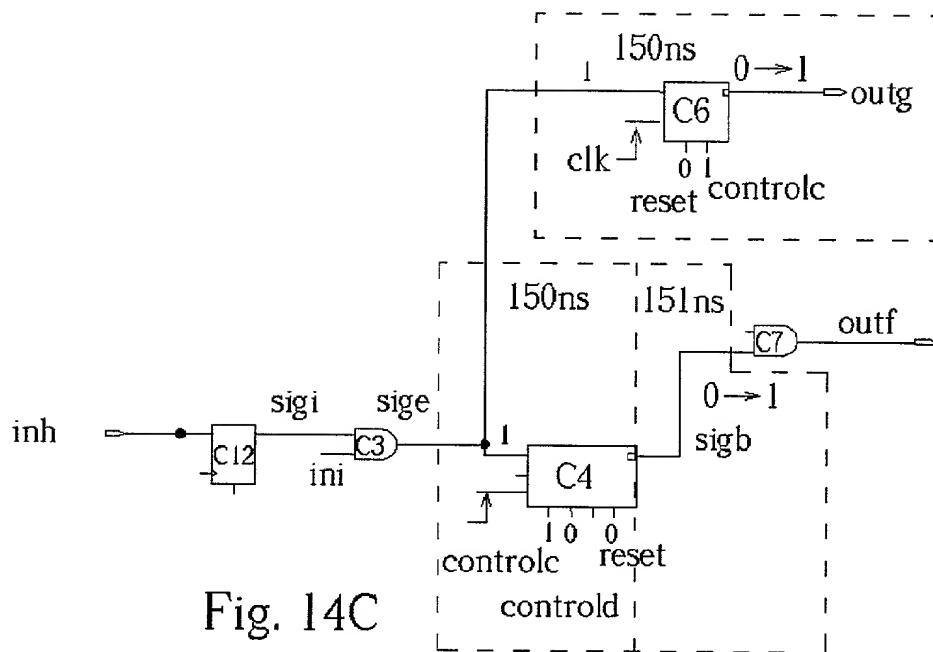


Fig. 14C

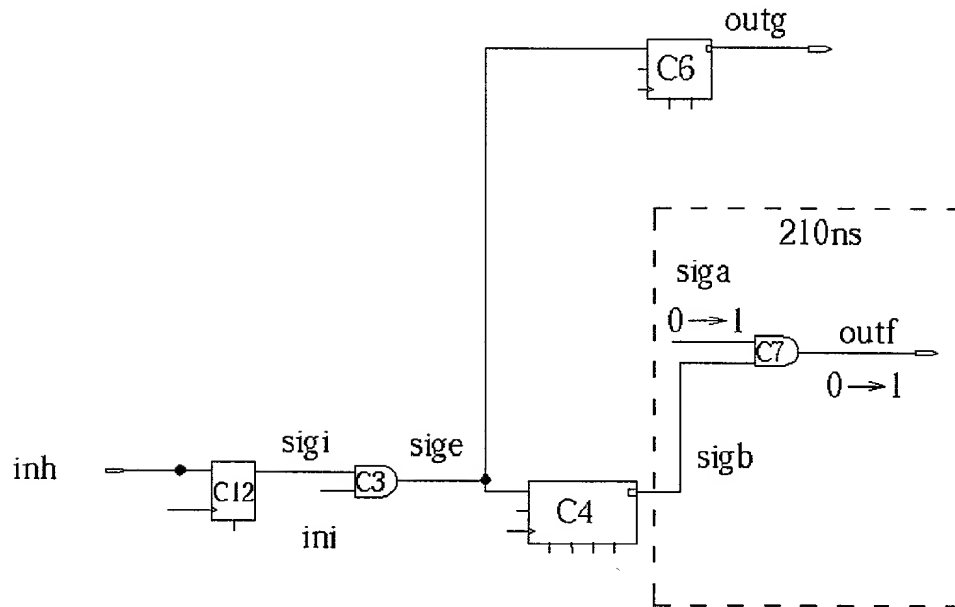


Fig. 14D

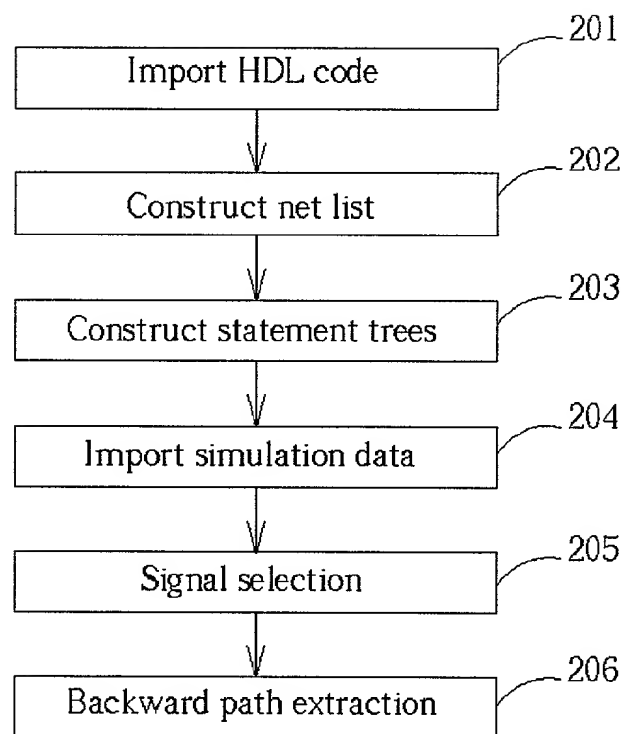


Fig. 15

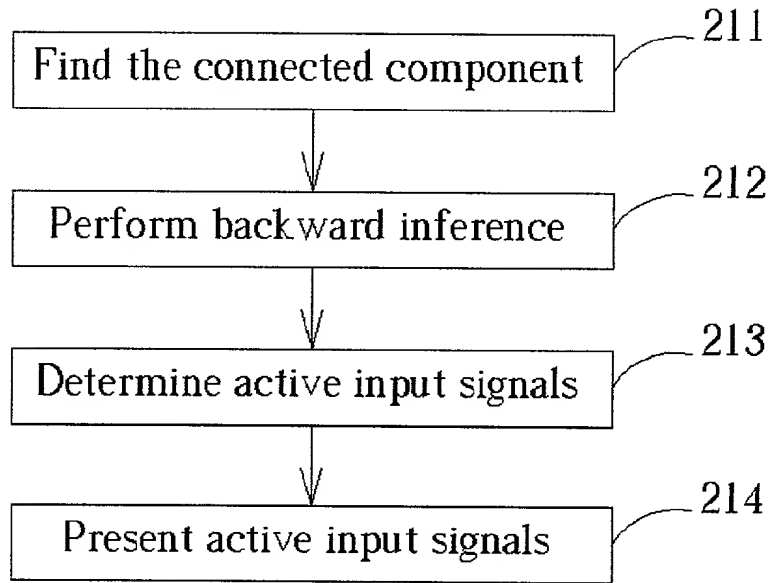


Fig. 16A

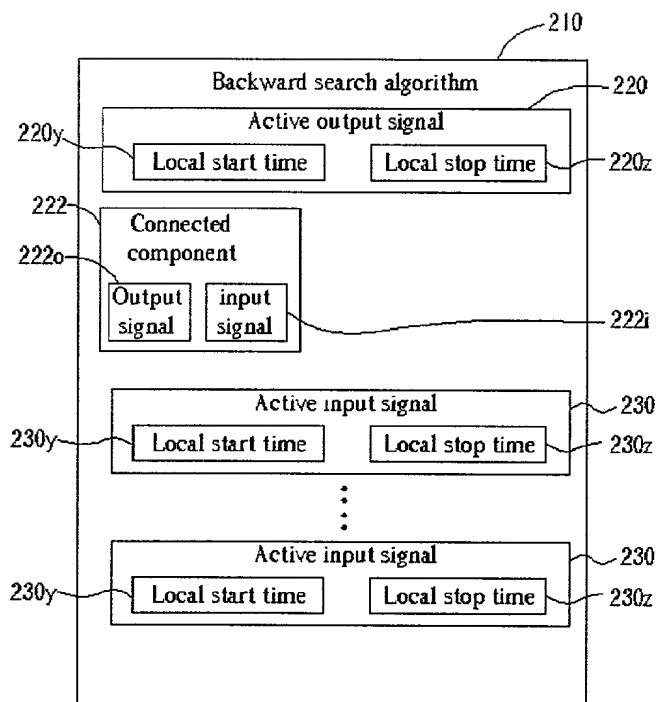


Fig. 16B

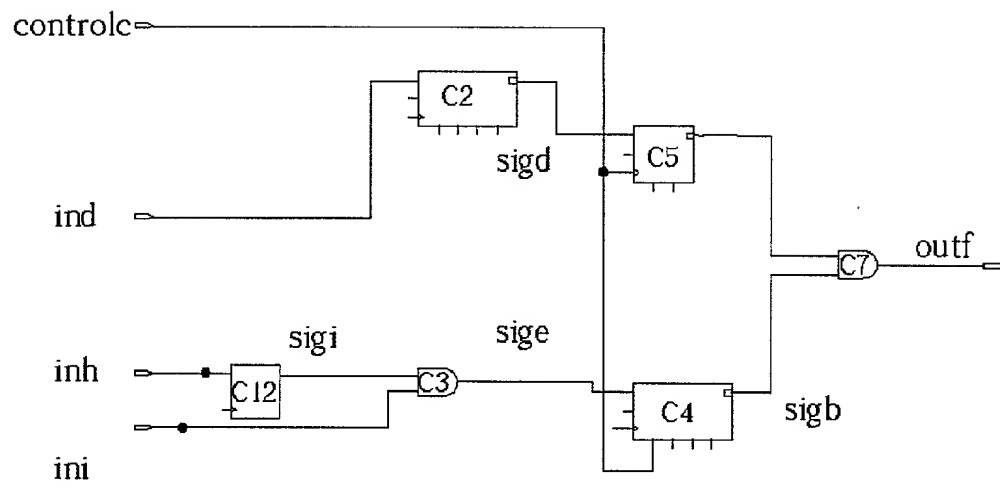


Fig. 17

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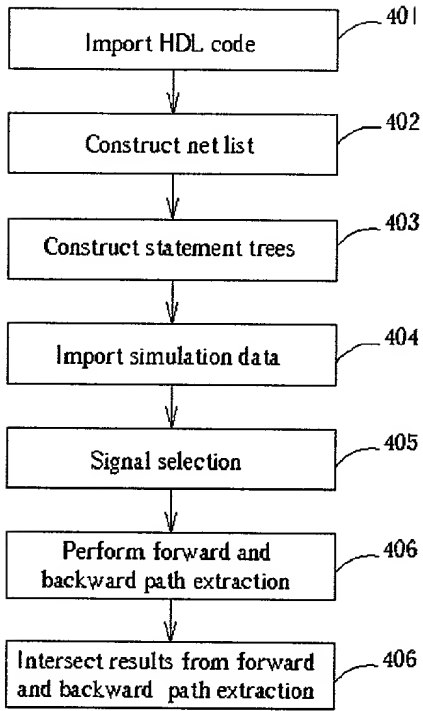


Fig. 18

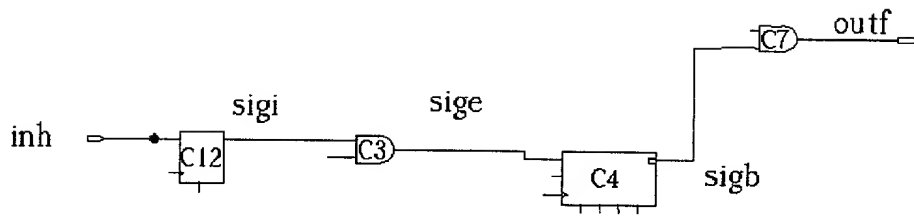


Fig. 19

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